

SUBNERO WIRELESS INTEGRATED SOLUTION

For ADCPs

INTEGRATED WIRELESS DATA TRANSFER SOLUTION FOR ADCP



Seamless User Experience

Web-based UI to summarize and download the data



Overall Cost Reduction

Streamlined operations driving down deployment costs



Wireless Data Transfer

Access ADCP data over wireless links in near real-time

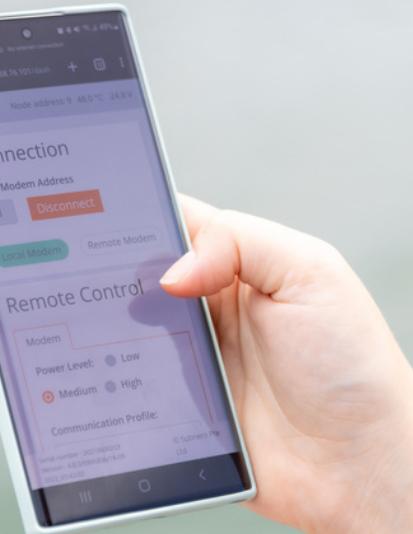
SWIS FOR ADCP

Subnero Wireless Integrated Solution (SWIS) for ADCPs provides a seamless end-to-end solution for the wireless transmission of ADCP data to avoid uncertainties during long-term deployments. The intuitive web-based user interface and Content-Aware Data Summarization (CADS) engine let the user effectively manage multiple deployments to drive down the overall costs.



CHALLENGE

Acoustic Doppler Current Profilers (ADCP) are essential to many subsea operations. However, accessing the data collected during a deployment is a challenge. Typical operations rely on physically retrieving the devices (using divers) to download the data after the deployment or using a cable to connect to a topside platform (e.g. buoy) for real-time data transfer. Both of these approaches are logistically challenging, expensive, and have safety concerns. It is also difficult for many ADCPs to be deployed in a single operation using these methods. Integration of a traditional acoustic modem that provides a pass-through wireless link can cause data loss and poor connectivity resulting in a poor user experience.



SOLUTION

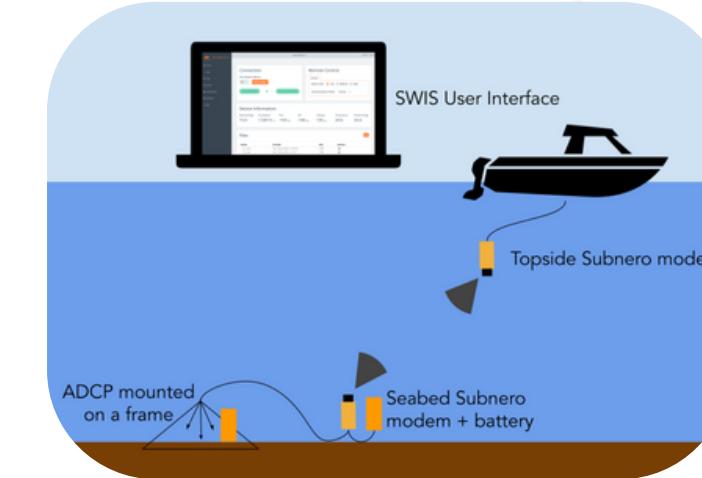
The Subnero Wireless Integrated Solution (SWIS) equips ADCPs with a WNC series acoustic modem for wireless data transfer. The modems periodically sync with the ADCP and apply machine learning models to create user-defined smart previews using the Content-Aware Data Summarization (CADS) engine. The smart previews or entire data files can be downloaded to the user's laptop or smartphone over a high-performance acoustic link with the single click of a button. A modern intuitive web-based dashboard provides all relevant information including device status, pitch, battery voltage, etc. in one place. Smart scheduler provides optimized power consumption to support long deployments. Overall, SWIS abstracts away the complexities of seabed mounted ADCP deployments to provide a seamless user experience.

HOW IT WORKS?

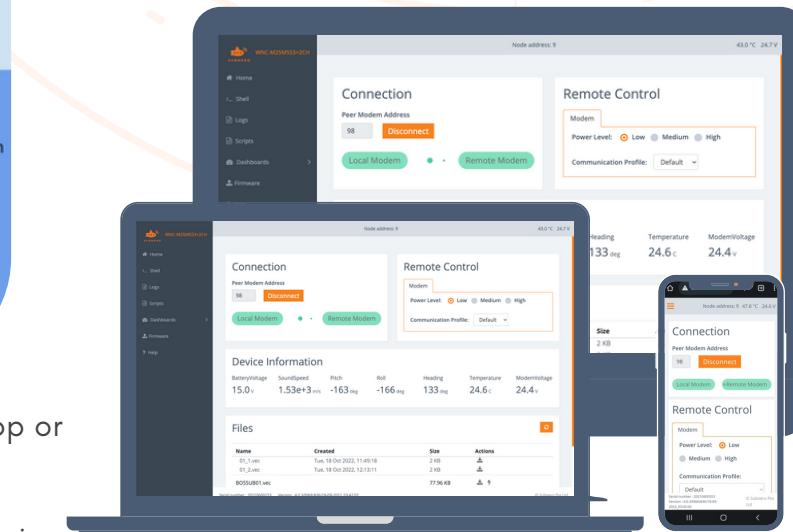
PRE-DEPLOYMENT

1. After ADCP configuration, select the preferred smart schedule based on the deployment requirement from the web UI.
2. Connect the ADCP, modem, and battery using the supplied underwater cable.
3. The solution is ready for seabed deployment.

DATA DOWNLOAD



1. Connect the topside unit to the user's laptop or smartphone.
2. Establish a connection to the seabed unit using the "Connect" button.
3. Once the connection is established, the list of available files for download is displayed.
4. Users may choose to create and download a smart preview or the original file.
5. The user clicks the download button.
6. Download progress is displayed.
7. Once downloaded, the user may open it using the ADCP vendor's software.
8. The user may disconnect and the bottom unit enters sleep state.



Supports both automatic (e.g. buoy) and manual data download (e.g. boat)

SWIS FEATURES



Data Summarization

CADS engine providing data summary for whole deployments

Early Fault Detection

Easy retrieval of ADCP status information such as mode, pitch, battery voltage etc.

Smart Scheduling

Supporting regular and ad hoc data downloads with power savings

Remote Control

Ability to remotely reconfigure ADCPs during deployment

Fault Tolerance

Multiple data copies providing protection against equipment failure

TECHNICAL SPECIFICATIONS

FEATURES	DETAILS
Supported WNC devices	M25M or S60H series modems
Smart previews	Yes, supported using CADS engine
Smart scheduler	Yes, supported on Gen 4 WNC series
Smart profiles	Yes, supported on Gen 4 WNC series
WNC device storage	32 GB (upgradable)
Communication Interfaces	Ethernet, RS232, WiFi*
Endurance	Up to 6 months**
User interface	Web-based dashboards

* With third party WiFi router.

** Depending on battery pack and schedules.